

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of the Claims

Claims 1 - 16 (cancelled)

Claim 17 (previously presented) A device for contactless electrical power transmission in a system including at least one stationary and one moving part, power being transmitted between the at least one stationary part and the at least one moving part, the device comprising:

an inductive transformer including a primary winding disposed on the stationary part and a secondary winding disposed on the moving part, the inductive transformer bridging an isolating point between the stationary part and the moving part;

a frequency generator having a series-resonant circuit capacitor connected to the primary winding; and

at least one actuator control element connected to the secondary winding and including a matrix arrangement of a plurality of switchable power semiconductors, wherein at least portions of the inductive transformer, frequency generator and at least one actuator control element are disposed in an area of a rotor shaft and a rotor head of a rotary-wing aircraft.

Claim 18 (previously presented) The device as recited in claim 17, further comprising at least one capacitive actuator disposed in operative connection with the at least one actuator control element.

Claim 19 (previously presented) The device as recited in claim 17, wherein the at least one capacitive actuator is disposed in at least one rotor blade of the rotary-wing aircraft.

Claim 20 (previously presented) The device as recited in claim 17, wherein:

a) the plurality of switchable power semiconductors include unipolar switchable power semiconductors configured to form an output voltage of the actuator control element with only one polarity of at least one output conductor; and

b) the unipolar switchable power semiconductors are disposed in direction relative to the only one polarity of the output voltage and are configured to take up the output voltage as blockage voltage and to switch off the current from a positive one of the at least one positive output conductor to an alternating current input.

Claim 21 (previously presented) The device as recited in claim 17, wherein the plurality of switchable power semiconductors include bipolar switchable power semiconductors configured to form an output voltage of the actuator control element with alternating polarity of output conductors, the bipolar semiconductors selectively blocking positive or negative voltages and switching off currents in both conduction directions.

Claim 22 (previously presented) The device as recited in claim 18, wherein:

the actuator control element includes a regulator and a controller configured to impress positive and negative half-waves or half-wave segments of a higher-frequency alternating current into the actuator;

Claim 24 (previously presented) The device as recited in claim 17, wherein the at least one primary winding is disposed on a stationary part of a rotor shaft bearing, and wherein the secondary winding is disposed on the rotor shaft and corresponds to the primary winding.

Claim 25 (previously presented) The device as recited in claim 24, further comprising an azimuth sensor disposed on the rotor shaft and having an output connected to the actuator control element.

Claim 26 (previously presented) The device as recited in claim 17, further comprising:

an aerodynamically effective device actuated by the capacitive actuator and having an output connected to the capacitive actuator; and

at least one sensor disposed in an area of the rotor blade and configured to detect a position of the aerodynamically effective device.

Claim 27 (previously presented) The device as recited in claim 17, further comprising electrical controls and wherein the actuator control element and the electrical controls are disposed in the rotor head and are connected to the inductive transformer via lines disposed in the rotor shaft.

Claim 28 (previously presented) A method to provide power of at least one capacitive actuator wherein the at least one actuator is arranged on a moving part system that is separated from a stationary system by an isolating point, the method comprising:

generating a higher-frequency alternating current from a direct voltage using a frequency generator disposed in the stationary system, the higher-frequency alternating current having an amplitude independent of a phase angle and of an amplitude of a reverse voltage;

transmitting the alternating current from a primary winding of an inductive transformer that bridges the isolating point;

separating the alternating current coming from a secondary winding of the inductive transformer in the moving part system into positive and negative half-waves or segments of these half-waves and always impressing the alternating current into the at least one actuator using an electronic control element in a direction such that a length change of the actuator occurs in a desired direction in each half-wave.

Claim 29 (previously presented) A method to provide power of at least one capacitive actuator, the method comprising:

generating a higher-frequency alternating current from a direct voltage using a frequency generator, the higher-frequency alternating current having an amplitude independent of a phase angle and of an amplitude of a reverse voltage;

separating the higher-frequency alternating current into positive and negative half-waves or segments of these half-waves;

always impressing the higher-frequency alternating current into the actuator using an electronic control element in such a direction that a length change of the actuator occurs in a desired direction in each half-wave.